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2022 Conflict Mitigation Plan for Livestock Operations within the Togo Wolf Pack Territory

Introduction

The purpose of this document is to provide a proactive conflict mitigation plan for commercial livestock operators within the Togo wolf pack territory with the goal of reducing the number of livestock killed or injured by wolves as well as the number of wolves lethally removed in response.

This plan was written by Washington Department of Fish and Wildlife (WDFW) staff with collaboration and input from stakeholders in the affected area including commercial livestock producers in the core Togo pack territory, the United States Forest Service (USFS) Colville National Forest Range Program, Cattle Producers of Washington (CPoW), Northeast Washington Wolf Cattle Collaborative (NEWWCC), and the Stevens and Ferry County Wildlife Specialist.

This plan documents the history of chronic wolf-livestock conflict from 2019-2021 in the Togo pack territory, including non-lethal measures and livestock husbandry practices previously implemented by affected livestock producers, documented depredation events, and WDFW management actions. This plan utilizes the knowledge and experience gained by all involved parties during prior grazing seasons and details the expectations of affected livestock producers to implement non-lethal deterrence measures in order for WDFW to consider lethal removal of wolves. The plan also describes the expectations and commitments of WDFW to the affected livestock producers.

Background

Togo wolf pack information (as of 2022)

WDFW staff documented seven gray wolves in the Togo pack in early February 2022 during aerial capture operations and winter surveys. This pack is comprised of least four adult animals and a minimum of two pups. As of this writing, there are two functional Global Positioning System (GPS) radio-collars (collars) and one non-functional collar in the Togo pack. One adult male is wearing an active GPS collar deployed on May 10, 2021. As of this writing, the collar is functional and programmed to drop off on May 10, 2024. Staff were able to capture a previously uncollared yearling female in the pack and fit her with a GPS collar on February 2, 2022. As of this writing, that collar is functional and programmed to drop off on February 2, 2025. One adult female is also wearing a non-functional GPS collar deployed by the Confederated Tribes of the Colville Reservation in February of 2017, when she was a member of the Strawberry pack. WDFW staff attempted to capture that animal several times during aerial capture operations to replace her collar but were unable to do so due to dense and tall timber and her ability to avoid the helicopter. There are currently no plans to deploy additional collars in the Togo pack in

anticipation of the 2022 grazing season. WDFW will continue to monitor both active collars in that pack and will attempt to deploy more collars if necessary.

In early 2021, the Togo pack expanded its previous territory to include a substantial portion of the territory formerly occupied by the Kettle, OPT, and Profanity Peak packs (Figure 1). Togo wolves were documented as far south as Deadman Creek beginning in March of 2021, although at that time it was believed that the animals in that area were members of the Kettle Pack. It was not until WDFW collared a wolf within the traditional Togo pack territory in May and a yearling male in the Kettle territory at the beginning of June that biologists realized that these were all members of the same pack. The wolf collared within the Kettle territory subsequently dispersed over 100 miles north into British Columbia (BC), Canada, and has settled into a territory east of Vernon, BC. WDFW staff shared this information with their colleagues in BC and no longer consider that animal a Washington wolf.

Although the Togo pack denned and rendezvoused in the Day Creek area in 2021, they have been utilizing the southern portion of their territory more regularly since the end of the 2021 grazing season and may continue to do so during the 2022 grazing season. It is likely that the Togo pack will produce pups again in the spring of 2022, although it is difficult to determine exactly where they will den and rendezvous during the 2022 grazing season. The Togo pack has utilized new den sites each year since they were confirmed and has denned at multiple sites within the Little Boulder, Lone Ranch, and Day Creek grazing allotments during that period. It is noteworthy that during that time, their territory did not include the area south of Boulder Pass. There is potential that the Togo pack may utilize a new den or rendezvous site in the southern portion of their territory during the 2022 grazing season.

WDFW staff will monitor collar activity in the Togo pack closely over the pre-denning and denning season and will prioritize determining the general location of any denning activity as early as possible. This may take until May 15, 2022. This information will be shared with the WDFW wildlife conflict specialists, land managers, and producers with livestock in the affected area as soon as it becomes available.

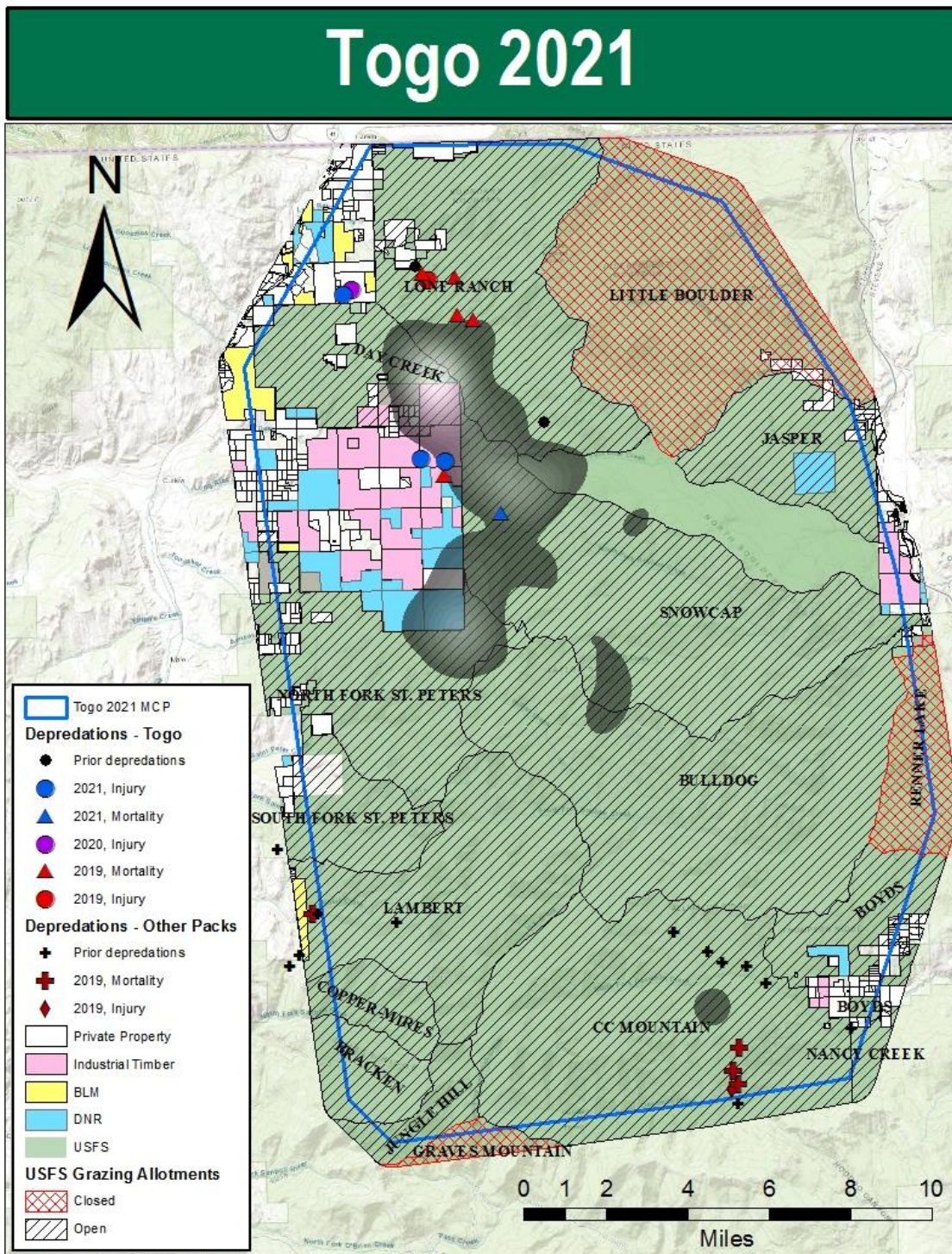


Figure 1. Map of the assumed Togo territory represented by a 100% Minimum Convex Polygon (MCP) buffered by a half-mile. The shaded areas represent an approximation of the intensity of wolf use during the 2021 grazing season (June 1 – October 31). Areas of low intensity of use were not shaded. Historical wolf depredations involving other packs occurring within or near the Togo territory have been included to reflect WDFW's knowledge of all documented wolf-livestock conflict in the area.

Affected livestock operations

WDFW staff identified six commercial livestock operations within the core Togo pack territory where wolf-livestock conflict has occurred and/or where wolves and cattle regularly overlap and the potential for wolf-livestock conflict is the greatest (Table 1). The six livestock operations have been assigned a number corresponding to the grazing allotment they use (Table 1). Conflict deterrence efforts for each producer in previous years are detailed in Appendix B.

Most commercial livestock operations within the territory, including Producers 1-6, consist of cow/calf operations. Cattle are for beef production and consist of some of the more common beef cattle breeds, such as Hereford and Black Angus; however, several other breeds may be present.

Table 1. USFS grazing allotments and livestock operation information, 2022.

Allotment	Producer	Acres	Cow/calf pairs	Season of use	Depredations by wolves	Rotation/# of units within allotment
Bracken	6	7,535	60	6/1-10/15	No	Deferred ¹ /3
Bulldog	4	29,263	142	6/1-10/15	No	Deferred ¹ /3
C.C. Mountain	5	31,124	198	6/1-10/15	Yes	Rest ² /5
Day Creek	2	7,321	75	6/1-10/15	Yes	Allotment Wide ³ /1
Jungle Hill	6	7,835	125	6/1-10/15	No	Deferred ¹ /3
Lone Ranch	1	20,038	231	6/1-10/31	Yes	Deferred ¹ /3
NFK St. Peters	6	13,487	126	6/1-9/30	No	Deferred ¹ /4
SFK St. Peters	6	6,476	111	6/1-10/15	No	Deferred ¹ /3
Snowcap	3	24,883	147	6/1-10/15	Yes	Deferred ¹ /2
Copper-Mires	5	6,274	147	6/5-10/4	No	Deferred ¹ /4

¹Deferred - A unit within an allotment is deferred from a period of use during the growing season for recovery.

²Rest - A unit that is typically grazed every other year, where the sequence of rest changes on a defined schedule.

³Allotment Wide - Allotments with only one unit where deferment of use is achieved by several different means.

Producer 1

Producer 1 grazes cattle on a mixture of privately owned pastures (several thousand acres, adjoining private industrial timberland) and the Lone Ranch grazing allotment near Danville, Washington. Most prior wolf-livestock conflict in this area has occurred on the Lone Ranch – USFS grazing allotment, comprised of over 20,000 acres, separated into three units. The Lone

Ranch grazing allotment extends from the US – Canadian Border to Rocky Mountain and from Boundary Mountain to Togo Mountain.

This producer has traditionally calved away from areas historically occupied by wolves. Producer 1 calves across the Kettle River from the Togo pack territory (now occupied by the Vulcan pack) from January to April. This producer typically grazes their cattle on a mixture of private, public, and leased land within and surrounding the Togo pack territory.

Producer 2

Producer 2 grazes cattle on a range comprised of the Day Creek grazing allotment and private industrial timberland. The Day Creek grazing allotment borders the Snowcap and Lone Ranch grazing allotments and extends from Boulder Creek Highway to Day Creek Road. The range is located near the town of Curlew, Washington.

This producer has traditionally calved away from areas historically occupied by wolves. Producer 2 calves across the Kettle River from the Togo pack territory (now occupied by the Vulcan pack) from February to April. The Day Creek grazing allotment borders a private industrial timberland lease and there is no pasture or boundary across the entire allotment. Over decades of implementing livestock husbandry practices (e.g. salting, water developments, gathering, etc.) the cattle in this area gradually go onto the grazing allotment as the season progresses, due in part to an elevation gradient that exists on the allotment.

Producer 3

Producer 3 only grazes cattle on the Snowcap grazing allotment within the Togo pack territory. The Snowcap grazing allotment is intersected by Boulder Creek Highway and extends from Lower Boulder Mountain to Bulldog Mountain and from Rocky Mountain along Plantation Road to Deer Creek Summit. The Snowcap grazing allotment borders parts of the Day Creek, Lone Ranch, and Bulldog grazing allotments.

This producer calves outside of any known wolf pack territory from February to April. The producer ships cattle from winter pasture to summer pasture during the first of June each year.

Producer 4

Producer 4 grazes cattle on the Bulldog grazing allotment and some private industrial timberland surrounding the producer's ranch headquarters. The Bulldog grazing allotment is the second largest grazing allotment in the Kettle River Range at 29,263 acres and is split into three units. The Bulldog grazing allotment extends from Profanity Peak to Jackknife Mountain and from lower Boulder Creek Highway to Bulldog Mountain and then on to Deer Creek Summit.

This producer calves within the Togo pack territory from February to April. Although this is one of the few producers that calves within the Togo pack territory, no cattle have been depredated by wolves during this time. By utilizing private industrial timberland leases and other private

pasture, the producer delays turnout until the middle of June. This ensures that the calves are heavier and aligns closely with the peak of wild ungulate fawning and calving.

Producer 5

Within the Kettle River Range, Producer 5 grazes cattle in the CC Mountain, Lambert Creek, and Copper Mires grazing allotments as well as a Department of Natural Resources (DNR) lease along Lambert Creek.

The CC Mountain grazing allotment is the largest allotment within the Kettle River Range at 31,124 acres, which is split into five separate units. The allotment stretches from US Mountain to Albion Hill and from Jackknife Mountain down to Hoodoo Mountain, then over to Graves Mountain. The Lambert Creek grazing allotment stretches from Belcher Mountain to Scar Mountain and from Profanity Peak to Lambert Mountain. The Copper Mires grazing allotment runs from Copper Butte to Lambert Creek and from Herron Creek to Scar Mountain.

This producer calves outside of any known wolf pack territory from February to April. The producer ships cattle from winter pasture to summer pasture during the month of May each year.

Producer 6

Producer 6 grazes cattle on the Bracken, Jungle Hill, North Fork St. Peters, and South Fork St. Peters grazing allotments. Producer 6 also grazes cattle on several private pastures and leases that border the USFS grazing allotments. Although some of the producer's allotments and winter calving pastures fall within the Togo pack territory, no depredations have been documented in this area.

The North Fork St. Peters grazing allotment extends from Ryan Hill to the top of Long Alec Creek and from Art Creek to Profanity Peak. This allotment shares an eastern border with the Snowcap, Bulldog, and Lambert grazing allotments. The South Fork St. Peters – USFS grazing allotment borders the North Fork St. Peters allotment to the north and the Lambert allotment to the south and east. The western boundary parallels the South Fork St. Peters Creek. The Bracken Creek allotment borders the Lambert allotment to north and east and the Jungle Hill allotment to the east and south. The western boundary parallels the North Fork Sanpoil River. Lastly, the Jungle Hill allotment borders the CC Mountain and Graves Mountain allotments to the east and the Bracken allotment to the north. The southern boundary nearly reaches Highway 20 and the western boundary borders the South Fork Sandpoil River.

This producer calves both within and outside the Togo pack territory from February to April. Due to the number of different allotments and pastures the producer has, turnout may be altered by utilizing alternative ranges.

Landscape characteristics

Most of the included grazing allotments and ranges (Table 2) are forested and managed for multiple uses, including motorized and non-motorized recreation, livestock grazing, hunting, and timber harvest. Livestock grazing areas within these allotments consist of a mix of habitats that

provide livestock foraging opportunities. The landscape is mostly dense/heavy timber with moderate mountain terrain. The landscape can be steep, rugged, and oftentimes inaccessible. This poses a significant challenge for producers and range riders alike to detect and monitor cattle.

Potential wildfire and drought impacts

Fire activity can affect range riding access if road closures/evacuation orders are put in place. This all depends on fire severity and location on the landscape in relationship to allotment/pasture boundaries. Mitigation measures for the impact of drought could include reduced stocking rates on the allotment, shorter seasons of use, more riding by permittees to move livestock to available forage, decreased livestock distribution patterns on the landscape and changes in livestock habituation relative to available forage and water. This is all very site specific and must be considered on a case-by-case basis.

Wolf-livestock conflict timeline

Although the cycle of chronic wolf-livestock conflict in the Togo wolf pack territory began prior to 2019, this plan focuses on documented depredation events and lethal removal authorizations within the past three years. From 2019 – 2021, WDFW documented 14 depredation events attributed to the Togo pack and authorized lethal removal of wolves in this territory three times (Appendix A); however, no wolves were removed during this time. Of the last 14 known livestock depredations, 12 were confirmed wolf depredations and two were probable wolf depredations. Six depredations resulted in mortalities and eight resulted in injuries. All depredations involved domestic calves grazing on a mixture of private and public land. This plan does not attempt to correlate wolf-livestock conflict with private v. public land grazing. Since 2019, several depredations have occurred on both private and public land.

Expectations for non-lethal deterrence measures

Expectations for all affected livestock producers (*explanation of each measure is provided in the [wolf-livestock interaction protocol](#) [Protocol]*)

- Regular communication with WDFW staff
 - Producers are encouraged to regularly communicate and consult with the WDFW Wildlife Conflict Specialist or other available WDFW staff.
 - Producers are expected to answer and return phone calls, text messages, and emails on a regular basis.
 - If a producer is experiencing wolf-livestock conflict or has a concern, they are encouraged to reach out to WDFW staff.
 - Ideally, producers, range riders, WDFW staff and other affected stakeholders are communicating on a weekly to bi-weekly basis.
- Daily or near daily range riding

- WDFW requests range rider logs on a weekly basis from NEWWCC and CPoW riders. WDFW can most quickly and efficiently interpret this data if riders use the WDFW Range Rider Log (Appendix C). A digital photograph of range rider logs provided to a WDFW Wildlife Conflict Specialist and Wildlife Conflict Supervisor is adequate.
- WDFW requests range rider location records when available. Garmin inReach track records allow WDFW to interpret this data much more quickly and efficiently than geo-referenced photos.
- Delays in receiving range rider logs and documentation will result in delays in lethal removal recommendations.
- Carcass sanitation
 - In addition to the strategies listed in the Protocol, livestock producers should ensure there is an area available away from livestock for carcass disposal.
 - Carcasses should only be left on the range if they are irretrievable (e.g., backcountry sites, steep terrain). Liming carcasses or increased range riding near irretrievable carcasses may be an acceptable alternative.
- Removal of sick or injured livestock
 - Missing, sick, or injured livestock should be sought and removed from the range when found as soon as possible.
- Avoidance of known, active den and rendezvous sites
 - Salt blocks or other attractants (such as mineral stations, molasses blocks, protein tubs, etc.) should not knowingly be placed near an active den or rendezvous site, after the location is shared with the producer by WDFW. If an active den or rendezvous site is discovered, any previously established nearby salt block or attractant should be relocated to maximize distance from wolf activity centers.
- Report suspected depredations
 - A producer who suspects that a wolf has been injured or killed livestock should report this by calling the WDFW Wildlife Conflict Specialist, the Washington State Patrol, or the local Sheriff's County Dispatch on the day of discovery. Actions taken after locating an injured or dead livestock may assist with determining the cause of death. To protect evidence:
 - Place a tarp over the carcass, while protecting the scene; then
 - Keep all people and domestic animals from the area
 - Do not touch or move the carcass(es) and/or evidence;
 - Avoid walking in and around the area; and
 - Take photographs of the scene or place a trail camera at the site, if one is available.
 - If suspected depredations are not reported in a timely manner, determinations may be harder to make and wolf depredation behavior may escalate.

- Give WDFW staff permission to deploy non-lethal tools (e.g., fladry, Fox lights, RAG boxes) as needed

Expectations for specific livestock producers based on their operation

A narrative summarizing the proactive nonlethal deterrents previously implemented by each individual livestock operation (Producers 1-6) may be found in Appendix B. Producers plan to maintain the efforts described in Appendix B, in addition to the expectations described below.

Producer 1

Producer 1 will coordinate with range rider NGOs and WDFW staff to ensure that daily to near-daily range riding expectations are being met. The producer may use a combination of NEWWCC, CPoW, or WDFW range riders. The producer may also utilize a DPCA_L to cost share for hired ranch hands and producers to range ride as well. The producer may consider alternative pastures and delayed turnout if wolf location data suggests they should. Producer 1 will coordinate with WDFW staff to deploy non-lethal deterrents such as scare devices when appropriate. Producer 1 will pilot VHF ear tags during the 2022 grazing season to determine if cattle detectability is improved.

Producer 2

Producer 2 will deploy both NEWWCC and CPoW range riders during the 2022 grazing season to meet the daily to near daily range rider expectation. This producer will need to monitor cattle proximity to known wolf den and rendezvous sites and may need to move salt blocks and other attractants to reduce the likelihood of conflict. Producer 2 implemented the VHF ear tag pilot project during the 2021 grazing season and may decide to continue using them during the 2022 grazing season. Producer 2 may require more range riders than other producers, due to the proximity of cattle and wolves and the inability to move cattle to an alternative range and or pasture. Producer 2 will coordinate with WDFW staff to deploy non-lethal deterrents such as scare devices when appropriate.

Producer 3

Producer 3 will utilize a DPCA_L contract to cost share at least two full-time range riders to monitor their cattle and range. Producer 3 may require additional range riders and human presence depending on cattle proximity to wolves and any known den or rendezvous sites. Producer 3 will continue to use appropriate pasture rotation strategies to avoid vehicle collisions on Boulder Highway and to prevent livestock trespass. As in years past, the producer will deploy reflective collars and cowbells on a subset of cattle within the herd. Producer 3 uses trained herding and cattle dogs to assist range riders in gathering and sorting cattle on the range. Producer 3 will coordinate with WDFW staff to deploy non-lethal deterrents such as scare devices when appropriate.

Producer 4

Producer 4 works closely with NEWWCC to ensure that the daily to near-daily range riding expectation is met. In addition, the producer and their family regularly monitor cattle on the range and coordinate efforts with NEWWCC and WDFW. The producer will utilize a DPCA_L contract to cost share some range riding efforts in a nearby pack territory. This allows the producer to focus primarily on cattle within the Bulldog allotment. Producer 4 used VHF ear tags in 2021 and will continue using them on a subset of the cattle during the 2022 grazing season. Producer 4 has worked and will continue to work closely with WDFW to reduce wolf-livestock conflict around their calving area and ranch headquarters. In the event of a wildfire, the producer will work with WDFW staff and the USFS range program to make sure that the cattle are being monitored.

Producer 5

Producer 5 will employ a full-time CPoW range rider to cover their allotments in addition to the human presence and range riding performed by the producers and their hired ranch hands. Since Producer 5 is the only livestock operation not farming hay during the summer months, they are able to monitor cattle more often than several other operations. Therefore, Producer 5 will spend a considerable amount of time on the range. Producer 5 and CPoW will coordinate regularly with WDFW staff to ensure that the daily to near-daily range riding expectation is being met. Producer 5 may have to adjust their range riding effort or salting sites depending on wolf proximity to cattle.

Producer 6

Producer 6 works primarily with NEWWCC to employ a full-time range rider on their range. Although the producer has not sustained a known wolf depredation, deterrence measures are still being implemented to reduce the likelihood of wolf-livestock conflict. The producer may also utilize a DPCA_L contract to cost share both the producer and hired ranch hands that monitor cattle on a frequent basis. Producer 6 will continue to monitor cattle and may adjust turnout dates or pasture rotation strategies if wolf location data suggests it would be useful.

Expectations for WDFW staff

- Regular communication with livestock producers
 - The WDFW Wildlife Conflict Specialist will communicate with livestock producers at a minimum weekly and/or biweekly if they are experiencing wolf-livestock conflict.
 - The WDFW Wildlife Conflict Specialist and WDFW staff will answer, return phone calls, text messages, and/or emails within 24 hours.
 - The WDFW Wildlife Conflict Specialist will provide requested non-lethal tools (when available) within 24 hours.
 - The WDFW Wildlife Conflict Specialist and/or WDFW staff will respond to suspected depredations within 24 hours.
- Advise affected livestock producers of known, active den and rendezvous sites

- WDFW staff will verbally share locations of known, active wolf activity centers with livestock producers grazing livestock in the area.
- Plan and coordinate range riding efforts
 - WDFW, NEWWCC, and CPoW will prioritize range rider deployments according to previous depredation locations as well as cattle proximity to known wolf activity centers. To maximize effectiveness, range riders may be deployed in different areas throughout the grazing season based on the most current information. For example, if a confirmed depredation occurs in an allotment adjacent to a rendezvous site, range riders may be asked to spend more time in the allotment where the depredation occurred. A range rider may be asked to alternate their work schedule if evidence suggests that wolves are depredating livestock in the evenings. This approach is intended to improve range rider efficacy while recognizing that range riders and resources are limited.
- Maintain a calendar of range rider presence across the chronic conflict area
 - In coordination with affected producers, NEWWCC, and CPoW, WDFW Wildlife Conflict Specialists will develop and maintain a calendar to document and coordinate range rider deployments across the chronic conflict area. By maintaining the calendar throughout the grazing season, WDFW and affected stakeholders will be able to monitor whether range riding expectations are being met. A range rider calendar will also help document range rider effectiveness by ensuring that allotments and pastures are receiving sufficient coverage.
- Provide data sharing agreements to livestock producers grazing in the Togo pack territory, if desired
- Provide and deploy non-lethal tools (e.g., fladry, Fox lights, RAG boxes) as needed and if available
- If wolf-livestock conflict occurs, evaluate non-lethal deterrents in place and work with producers to identify reactive non-lethal deterrents to prevent further conflict
- Implement process to consider lethal removal immediately if Togo pack reaches three depredations in 30 days or four depredations in 10 months
 - **If** lethal removal is authorized, begin operation as soon as possible
 - Complete lethal operation ideally within 7-14 days of qualifying depredation
 - If WDFW documents additional livestock depredations indicating a renewed pattern of depredation after the lethal removal operation has concluded, WDFW may initiate another lethal removal action

Appendix A.

Documented depredation events attributed to the Togo pack and authorized lethal removal of wolves in this territory, 2019-2021.

No.	Date	Livestock age	Injury/Mortality	Determination	Proactive Deterrents	Land Ownership	Allotment/Pasture	10-month window	Wolves Lethally removed
1	7/24/2019	Calf	Mortality	Confirmed	Yes	Private	Industrial Timber	5/24/2020	Wolf shot in caught-in-the-act incident on 7/24/2019 (wolf likely mortally wounded)
2	7/29/2019	Calf	Mortality	Confirmed	Yes	Public	Lone Ranch	5/29/2020	
3	7/31/2019	Calf	Injury	Confirmed	Yes	Public	Lone Ranch	5/31/2020	
Lethal removal authorization 1	8/9/2019								Lethal removal reauthorized for the remaining wolves in the pack. No wolves were removed during this lethal removal effort and no formal evaluation

									period was initiated.
4	8/11/2019	Calf	Mortality	Confirmed	Yes	Public	Lone Ranch	6/11/2020	
5	8/11/2019	Calf	Injury	Confirmed	Yes	Public	Lone Ranch	6/11/2020	
6	8/11/2019	Calf	Injury	Confirmed	Yes	Public	Lone Ranch	6/11/2020	
7	8/23/2019	Calf	Mortality	Confirmed	Yes	Public	Lone Ranch	6/23/2020	
8	8/31/2019	Calf	Injury	Confirmed	Yes	Public	Lone Ranch	7/1/2020	
9	9/11/2019	Calf	Mortality	Probable	Yes	Public	Lone Ranch	7/11/2020	
10	6/6/2020	Calf	Injury	Confirmed	Yes	Private	Private Pasture	4/6/2020	
Lethal removal authorization 2	6/19/2020 – 7/23/2020								Lethal removal reauthorized for no more than two wolves to be removed through the issuance of lethal removal permits and WDFW

									removal efforts. WDFW did not remove any wolves but made multiple attempts. WDFW did not document any wolf depredations in the Togo pack territory since 6/6/2020 and entered an evaluation period.
11	6/24/2021	Calf	Injury	Confirmed		Public and Private	Day Creek	4/24/2022	
12	8/6/2021	Calf	Mortality	Confirmed		Public	Snowcap	6/6/2022	
13	8/17/2021	Calf	Injury	Probable		Private	Industrial Timber	6/17/2022	
14	8/17/2021	Calf	Injury	Confirmed		Private	Private Pasture	6/17/2022	
Lethal removal authorization 3									

Appendix B.

Proactive nonlethal deterrents previously implemented by Producers 1-6 in the Togo pack territory, 2019-2021

Producer 1

Producer 1 has continued to work with WDFW Wildlife Conflict Specialists to have proactive non-lethal deterrent measures in place prior to depredations. Despite several efforts to reduce wolf-livestock conflict, the Producer has sustained several known livestock depredations from wolves and was also short several head of cattle in the 2019 and 2021 grazing seasons, which were never found.

Producer 1 has implemented the following non-lethal deterrent measures on either private pastures, the Lone Ranch grazing allotment, or both. The Producer has traditionally calved away from areas historically occupied by wolves. The Producer calves across the Kettle River from the Togo wolf pack territory. However, this area is now occupied by the nearby Vulcan wolf pack. Due to the human activity needed to maintain a successful spring calving operation, the Producer also provides human presence and focused monitoring around private calving pastures. The Producer has made a concerted effort to delay the turnout of cattle on USFS grazing allotments in order to allow cattle calves more time to grow and to allow deer fawns, moose calves, and elk calves to become available as prey. If sick and/or injured cattle are identified on the range, the Producer transports those cattle back to the ranch headquarters and out of the Togo pack territory. Likewise, if a cattle carcass or other attractant is identified on the range, the Producer tries to remove that attractant from the landscape, when necessary and/or possible. If the Producer is aware of or has been informed about an area of high wolf activity, the Producer tries to avoid these areas through pasture rotation strategies or delayed turnout, when feasible. The Producer has allowed WDFW staff and range riders to deploy Foxlights® in targeted areas where there is a higher risk of wolf-livestock conflict (i.e. salting sites, water developments, wolf den sites, wolf rendezvous sites, etc.). Above all other non-lethal deterrents previously mentioned, the Producer has made the greatest effort to maintain daily to near-daily range riding during the grazing season. In addition to the Producer and ranch staff regularly monitoring cattle on the range, the Producer has worked with NEWWCC, CPoW, and WDFW to deploy qualified and experienced range riders. Due to the vastness and inaccessibility of the Lone Ranch grazing allotment as well as the amount of cattle stocked within the allotment boundaries, range riding has been the primarily non-lethal deterrent used to reduce wolf-livestock conflict.

Producer 2

Like Producer 1, Producer 2, has continued to work with WDFW Wildlife Conflict Specialists to have proactive non-lethal deterrent measures in place prior to any depredation event. Despite several instances where cattle have reportedly been chased, the Producer has sustained fewer known livestock depredations by wolves. Until the 2021 grazing season, Producer 2 has reported extremely good end

of season counts over the last several seasons. During the 2021 grazing season, the Togo wolf pack territory denned and rendezvoused in the middle of Producer 2's range, creating significant hardship for his operation.

Producer 2 has implemented the following non-lethal deterrent measures on either private pasture, the Day Creek grazing allotment, or both. The Producer has traditionally calved away from areas historically occupied by wolves. The Producer calves across the Kettle River from the Togo pack territory, which is now occupied by the neighboring Vulcan wolf pack. Due to the human activity needed to maintain a successful spring calving operation, the Producer also provides human presence and focused monitoring around private calving pastures. If sick and/or injured cattle are identified on the range, the Producer transports those cattle back to the ranch headquarters and out of the Togo pack territory. Likewise, if a cattle carcass or other attractant is identified on the range, the Producer tries to remove that attractant from the landscape, when necessary and/or possible. If the Producer is aware of or has been informed about an area of high wolf activity, the Producer has tried to avoid these areas through pasture rotation strategies, salting strategies, or delayed turnout, when feasible. The Producer has met the daily to near-daily range riding requirement during the grazing season. In addition to the Producer regularly monitoring cattle, the Producer has worked with NEWWCC, CPoW, and WDFW to deploy qualified and experienced range riders. Due to the size of the Day Creek allotment, range riding has been the primary non-lethal deterrent deployed by the Producer to prevent wolf-livestock conflict. The Producer has also allowed WDFW staff to deploy Foxlights® and a radio activated guard (RAG) box on the range.

During the 2021 grazing season, The Producer piloted the use of 18 VHF ear tag transmitters by randomly dispersing them throughout the cattle herd grazed on the Day Creek allotment. The Producer also agreed to maintain open communication with WDFW to work together and prevent potential of wolf-livestock conflict.

Producer 3

Producer 3 first grazed cattle on the Snowcap grazing allotment in 2019. Since 2020, the Producer has continued to work with WDFW Wildlife Conflict Specialists to have proactive non-lethal deterrent measures in place to prevent depredations (Table 3). While the Producer was short several head of cattle at the end of the 2019 grazing season, and some were lost to vehicle collisions on Boulder Creek Highway, the producer reported that he had a 100% return rate for the 2020 grazing season. Up until the 2021 grazing season, the Producer had not sustained any known wolf depredations. During the 2021 grazing season, the Togo wolf pack rendezvoused within the Snowcap grazing allotment for a short period of time.

Producer 3 has demonstrated the ability to meet the requirements of the following non-lethal deterrents. The Producer calves well outside of the Togo pack territory, or any wolf pack territory for that matter. If sick and/or injured cattle are identified on the range, the Producer transports those cattle back to the ranch headquarters and out of the Togo pack territory. Likewise, if a cattle carcass or

other attractant is identified on the range, the Producer tries to remove that attractant from the landscape, when necessary and/or possible. The Producer has met the daily to near-daily range riding requirement through a DPCA_L cost share contract. The DPCA_L contract allows the producer to hire at least two full-time range riders to monitor the cattle within the Snowcap allotment.

The Producer has demonstrated his willingness to test new and creative ideas and pilot projects to reduce wolf-livestock conflict. Some of these experimental creative solutions include cowbells, reflective collars, livestock guardian dogs, trained cattle dogs, and innovative grazing rotation strategies. The producer accepted 15 cowbells and 20 reflective cattle collars at the beginning of the 2021 grazing season. Combined with the 12 collars and bells the producer received in 2020, the producer deployed 27 cowbells and 32 reflective collars during this 2021 grazing season.

Producer 4

Producer 4 has continued to work with WDFW Wildlife Conflict Specialists to have proactive non-lethal deterrent measures in place prior to depredations. Despite several reports of wolves in the allotment and around the Producer's cattle, the Producer has not sustained any known wolf depredations since 2018. The Producer has reported extremely good end up season counts over the last several seasons, with 2020 and 2021 at 100% returns.

Prior to the 2021 Grazing Season, Producer 4 has continued to implement the following non-lethal deterrent measures on either private pastures, the Bulldog grazing allotment, or both. While the Producer calves within the Togo wolf pack territory, the Producer maintains a high level of human presence and focused monitoring around his calving areas. The Producer has also coordinated with WDFW staff to deploy Foxlights® and fladry around his calving pasture. Producer 4 regularly delays the turnout of cattle to allow cattle calves more time to grow and to allow deer fawns, moose calves, and elk calves to become available as prey. Although the Producer can typically turn his cattle out on the range at the beginning of June, he usually waits until the middle of June. If sick and/or injured cattle are identified on the range, the Producer transports those cattle back to the ranch headquarters and out of the Togo pack territory. Likewise, if a cattle carcass or other attractant is identified on the range, the Producer tries to remove that attractant from the landscape, when necessary and/or possible. If the Producer is aware of or has been informed about an area of high wolf activity, the Producer has tried to avoid these areas through pasture rotation strategies or delayed turnout, when feasible. The Producer has allowed WDFW staff and range riders to deploy Foxlights® in targeted areas where there is a higher risk of wolf-livestock conflict (i.e. salting sites, water developments, mountain meadows, cattle hot spots, etc.). Above all other non-lethal deterrents previously mentioned, the Producer has made great efforts to maintain daily to near-daily range riding during the grazing season. In addition to the Producer regularly monitoring cattle on the range, the Producer works primarily with NEWWCC and WDFW to deploy qualified and experienced range riders. Historically, the Producer has used WDFW CRRs, NEWWCC range riders, and a DPCA_L contract to cost share the time the Producer and their family are on the range. Due to the vastness and inaccessibility of the Bulldog allotment, as well

as the amount of cattle stocked within the allotment boundaries, range riding has been the primarily non-lethal deterrent used to reduce wolf-livestock conflict.

During the 2021 grazing season, The Producer piloted the use of 15 VHF ear tag transmitters by evenly dispersing them throughout the cattle herd grazed on the Bulldog grazing allotment. The producer and several NEWWCC range riders were instructed on how to use telemetry equipment to locate cattle on the range.

Producer 5

The Producers maintain that they have followed the 2017 Wolf Livestock Interaction Protocol and always have at least two proactive non-lethal deterrents in place prior to any depredation events. Beyond what they deem as basic animal husbandry practices, Producer 5 does not calve within or around a wolf pack territory. If sick and/or injured cattle are identified on the range, the Producers transport those cattle back to the ranch headquarters and out of the wolf pack territory. Likewise, if a cattle carcass or other attractant is identified on the range, the Producers try to remove that attractant from the landscape, when necessary and/or possible. If the Producers are aware of or have been informed about an area of high wolf activity, the Producers have tried to avoid these areas through pasture rotation strategies or delayed turnout, when feasible. The Producer has historically allowed WDFW staff and range riders to deploy Foxlights® in targeted areas where there is a higher risk of wolf-livestock conflict (i.e. salting sites, water developments, mountain meadows, cattle hot spots, etc.). Between the Producers, their ranch staff, and a full-time CPoW range rider, the Producers feel as though they have a good handle on what goes on in their range. Unlike many other producers in the Kettle River Range, Producer 5 does not farm hay during the summer months. Therefore, they spend more time and resources out on the range monitoring cattle.

Until the 2020 grazing season, the Producers primarily rode their own range to meet the requirement of daily to near-daily range riding coverage. The Producers maintain that ranch staff consistently check on the cattle within the allotments several times per week. In 2020, the Producers allowed several CPoW range riders to cover their respective USFS grazing allotments and DNR leased pastures. In 2018 and 2019, WDFW assigned a CRR to the Producers allotment. However, neither the CRR nor his subcontracted family members met the requirements of daily to near-daily range riding coverage.

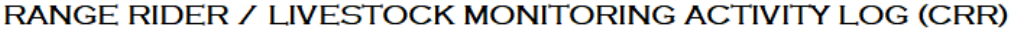
While the 2018 and 2019 grazing season resulted in several depredation events and two full wolf pack removals in the Kettle River Range, the Producers have sustained no known depredation events since the 2019 grazing season, and even reported improving end of season counts.

Producer 6

Like Producer 5, Producer 6 maintain that they have followed the 2017 Wolf Livestock Interaction Protocol and always have at least two proactive non-lethal deterrents in place prior to any depredation events or wolf-livestock conflict. Producer 6 has not sustained a single known wolf depredation since they have been grazing cattle in the Kettle River Range. Producer 6 has consistently had good end of season counts and regularly retrieves 100% of cattle from the range. Producer 6 calves both within and around the Togo pack territory. If sick and/or injured cattle are identified on the range, the Producer transports those cattle back to the ranch headquarters and out of the wolf pack territory. Likewise, if a cattle carcass or other attractant is identified on the range, the Producer tries to remove that attractant from the landscape, when necessary and/or possible. If the Producer is aware of or has been informed about an area of high wolf activity, the Producers has tried to avoid these areas through pasture rotation strategies or delayed turnout, when feasible. Between the Producers, their ranch staff, and a full-time NEWWCC range rider, the Producers feel as though they have a good handle on what goes on in their range.

<u>Proactive Nonlethal Deterrent Measures to Prevent or Reduce Wolf-Livestock Conflict</u>							
<u>Livestock Producer</u>	<u>Livestock Carcass Sanitation</u>	<u>Calving Area Outside Wolf Territory</u>	<u>Remove Sick or Injured Livestock</u>	<u>Delayed Turnout of Livestock on Range</u>	<u>Daily to Near-Daily Range Riding</u>	<u>Hazing Practices (Foxlight, RAG Box, etc.)</u>	<u>Coordinate Regularly with WDFW Staff</u>
<u>1</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>2</u>	<u>X</u>		<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>
<u>3</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>
<u>4</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>
<u>5</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>			
<u>6</u>	<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>		

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